e-ISSN : 2620 3502
p-ISSN : 2615 3785

Explaining Aluminous Ascientification Of Significance Examples Of Personal Study On Personal Identity

Djuraeva Rano Bahrombekovna

Senior Lecturer, Department of Modern Information Communication Technology, International Islamic Academy of Uzbekistan
dzhuraeva.rano@mail.ru

Mukhammadiev Alisher Numonhan-ugli

Intern-instructor of the Modern Information Communication Technologies Department of the International Islamic Academy of Uzbekistan

Khodjaeva Mavluda Sabirovna

Head of the Department of Modern Information Communication Technology, International Academy of Islamic Studies, Associate Professor
m.xodjayeva_@mail.ru

Jumaev Turdali Saminjonovich

Senior Lecturer, Department of Modern Information Communication Technology, International Islamic Academy of Uzbekistan, PhD
turdali_83@mail.ru

ABSTRACT

This article lists the results of an experimental test of algorithms for recognizing ear tags. Like most biometric technologies, one of the key issues is the separation of the characteristic image, which is also included in the recognition of the person on the basis of the ear studship. Because the accuracy and accuracy of the program depends on the criteria for recognizing the person on the basis of any biometric technology. Therefore, by distinguishing the problem of discrete cosine exchange, using the main component method and algorithms for separation, the characteristic sign of the ear stud was detected. These algorithms can be used to develop personal identification systems based on earphones.

Keywords: biometry, identification, character separation, ear tone image, discrete cosine swap method, main component method, specific numbers, original vectors.

1. INTRODUCTION

Currently, biometric technologies, such as facial expressions, eyebrows, fingerprints, and sound, are widely used. Biometric technologies are widely used in social networking, electronic payments, criminalistics and a number of other areas. The main task of such computer systems is to identify the person by biometric character. At the same time, identification systems are developing well, but in addressing some issues, the accuracy and speed of these systems will need to be improved.

Bio-metric technologies have an important role in the identification of the ear on the eyelid [2]. As it turned out, accuracy and reliability of the personality identification systems are very high in the ear studship [3]. Based on this technology, biometric technology, based on identification, has many advantages over other biometric technologies. First, the ear can not change over the course of human life

e-ISSN : 2620 3502
p-ISSN : 2615 3785

and its mental state, when it is different from one's face. Secondly, other sophisticated devices are not required to capture the ear stud. From the aforementioned, it can be concluded that biometric identification systems in the ear canopy are well-anticipated. At the same time, the development of the algorithm and the practical application of the ear drum have not been thoroughly studied. Therefore, the question of identifying the person in the ear canopy is at the center of attention of the world's scientists.
The purpose of the work is to evaluate the accuracy of the algorithms for the characterization of the character space, which reflects its peculiarities in the identification of the person in the ear studship.

2. RESEARCH DATABASE

Let's imagine, m person $T_i = \{t_{i1}, t_{i2}, ..., t_{ik_i}\}, (i = \overline{1,m}, k_i = Dim(T_i))$ get a set of images:

$$\mathrm{T} = \{T_1, ...T_i, ..., T_m\},$$

here t_{ik_i} get a set of images, N size images are identified by the characteristic.

The main purpose N - is the size of the character $N^{'}$ - the transition to the dimensional character block area, $Dim(R) > Dim(R^{'})$,

where $N = Dim(R)$, $N^{'} = Dim(R^{'})$.

3. SOLUTION OF THE ISSUE

In the solution of the problem it is necessary to allocate characteristic characteristic of an ear tile using algorithms of discrete cosine exchange, method of parenthesis and division algorithms, and accuracy of the developed algorithms and performance estimation.

1. The algorithm for distinguishing the characteristic of the ear tube image by the discrete cosine transformation method.

The algorithm for altering the ear tone image based on the discrete cosine transformation method is carried out in the following steps:

Stage 1. The ear stud's image is moved to the gray image.

Stage 2. Matrix M is formed, $M[i, j] = T[i, j] - 128$.

Stage 3. D is matrix, $D = PMP^{'}$,

here $P_{i,j} = \begin{cases} \frac{1}{\sqrt{N}}, a\text{z}api = 0; \\ \sqrt{\frac{2}{N}} \cos\left[\frac{(2j+1)i\pi}{2N}\right], a\text{z}ap\ i > 0. \end{cases}$

4- Finally. is the matrix of quantization $C(u,v) = \left[\frac{D(u,v)}{Q(u,v)}\right]$.

Stage 5. matrix elements are formed in the form of "zig-zag", that is, the vector $Z = \left(c_{0,0}, c_{0,1}, c_{1,0}, c_{2,0}, c_{1,1}, c_{0,2}, ...c_{7,7}\right)$.

Stage 6. Coding is done.

Stage 7. Characters are highlighted.

Step 8: The screen will be restored.

2. The algorithm for distinguishing the ear image image by the method of the main component.

An algorithm for altering the ear tone image based on the principal component method is performed in the following steps [5]:

Stage 1. $T_1, T_2, ..., T_m$ the ear canvas are brought to the same size.

Stage 2. T_i matrix T_i^* to vectors.

e-ISSN : 2620 3502
p-ISSN : 2615 3785

3-stage $\Psi = (1/m)\sum_{i=1}^{m} T_i^*$ is the average of the earlobe images.

4-stage. Φ_i The ear tone images are different from the average image, that is $\Phi_i = T_i^* - \Psi$.

Stage 5. the crust matrix is formed ($C = AA^T$).

Stage 6. Using the Xousxolder method, the matrix is moved to three diagonal matrices.

Stage 7. matrix-specific vectors are found using the algorithm.

Step 8: The image will be restored.

3. The algorithm for separating the static marks characterizing the image of the eardrum on the basis of fragmentation.

The algorithm for characterizing the image of the ear tube on the basis of fragments is made at the following stages:

Stage 1. The image is divided into pieces.

Stage 2. The characteristic of the character given in the graphic is the value of the character.

Stage 3. A strongly bound character set describes the object being rendered in the chart.

Stage 4. Each of the strongly bound character sets is identified by the repetitive marks.

4. RESULTS OF EXPERIMENTAL RESEARCH

In the Delphi programmable environment, the eardrum image marking software has been developed to address practical issues using the above mentioned algorithms. In order to check the functional capacity of this program, the problem of separating characteristic images of the ears of 40 persons has been resolved. At the same time, for each class, 20 eardrum images were taken.

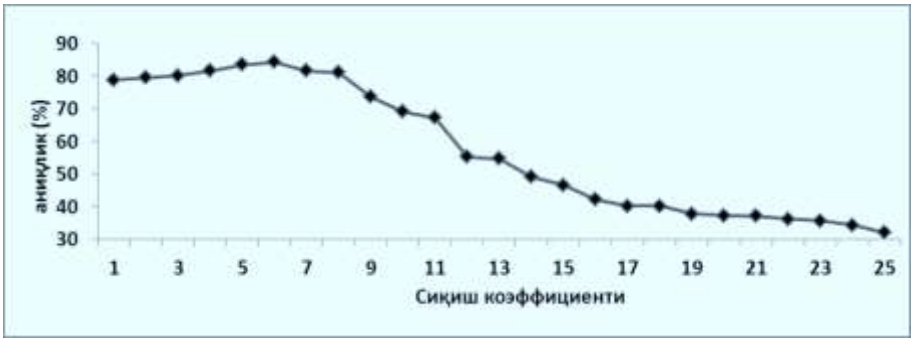
The effectiveness of the selected designs was assessed on the basis of the assessment of the quality of the recognition based on these criteria. In other words, the higher the resolution of the recognition problem, the higher the effectiveness of the selected characters.

The main results obtained from the algorithm of the ear image algorithm based on the discrete cosine transformation method are as follows:

1) when the best result split coefficient in this algorithm is the accuracy of recognition is 86% (Figure 1);

• the speed of the algorithm improved significantly after the phase 3 change;

• Because of the large number of characters separated by discrete cosine exchange, the time required for identification has increased.



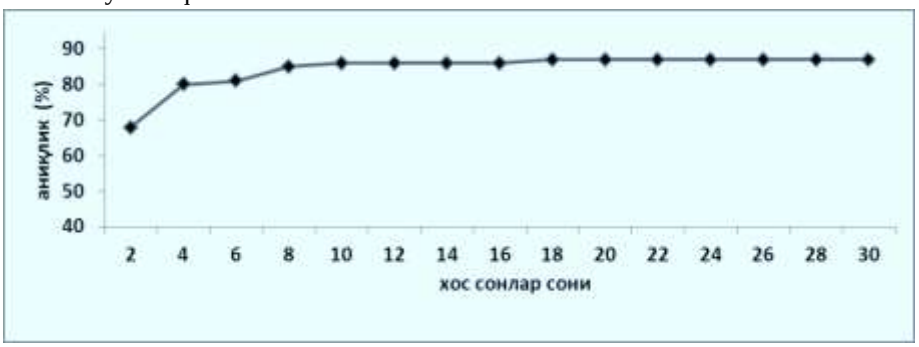
Picture 1. The result of identification of distinctive cosine variables.

2) The main results obtained from the algorithm of the ear sensor image algorithm on the basis of the main component method are as follows:

• All of the original numbers have been sorted by descending order and as a result of experimental researches, the largest number of 13 distinct numbers has been extracted and the original vectors corresponding to these specific numbers are formed. Formed original vectors are seen as characteristic images. The effectiveness of these signs was assessed and their accuracy was 89% (Figure 2);

e-ISSN : 2620 3502
p-ISSN : 2615 3785

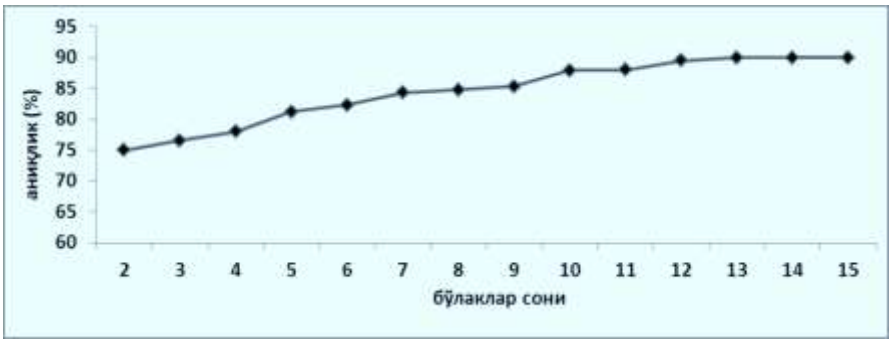
• The accuracy of identification based on regular numbered numbers did not differ significantly compared to the accuracy of acquisition of all odds.



Picture 2. The result of the diagnostics by using the Distinguished Character Mapping method.

3) The results of the algorithm for distinguishing static images characterizing the image of the eardrum are given below:

- The best result in this method is the accuracy of diagnostics at 12 units (Figure 3);
- Because of the limited number of characters, very little time is spent to identify them;
- The more algorithm the number of images in each class, the better the accuracy.



Picture 3. The result of diagnostics using the static marks characterizing the image of the ear tube on the basis of fragmentation.

5. CONCLUSION

The accuracy and speed of the image recognition depends on the image identifier being separated. Increasing the number of characteristic characters in the image recognition character will influence the speed of the algorithm. Therefore, it is necessary to distinguish the image with good characterization, ie, the repetitive characters. From the results of the research, it can be concluded that algorithms based on the calculation of the main component and the statistical indication of the ear canal were better than the method of discrete cosine replacement. This is due to the fact that the number of signs on the basis of discrete cosine replacement is greater than the remaining two algorithms. This, as mentioned above, affects the accuracy and performance of the algorithm. Discrete cosine can be used effectively when compressing images.

REFERENCES

Kukharev G.A. Biometric systems: Methods and means of identification of a person. : Polytechnic, 2001. 240 p.

Fazylov Sh.H., Mirzaev N.M., Zhumaev T.S. Formation of a set of representative signs of images of the face and auricles in the tasks of personal identification // Trudy. A.S. Russian Scientific and Technical

e-ISSN : 2620 3502
p-ISSN : 2615 3785

Society of Radio Engineering, Electronics and Communications Popova // 12th International Conference and Exhibition // Reports // Series: Digital Signal Processing and Its Application Issue: XII-2: pp. 62-65. DSPA-2010. Moscow, Russia

Burge M. and Burger W. (1998a) Ear Biometrics. BIOMETRICS: Personal Identification in a Networked Society, p 273-286. Kluwer Academik.

Jumaev T.S. Algorithm for altering the ear tube image as a discrete cosine change. // TATU messages. - Tashkent, 2011. -№2. 74-78 p.

Fazylov Sh.X., Mirzaev NM, Bozorov, A.A., Jumaev T.S. Algorithm for elimination of ear image marks in person identification // Journal of Uzbekistan "Informatics and Power Problems". - Tashkent, 2010. -5. 3-6 p.

Jumaev T.S. Forming a set of representative features characterizing the object in the picture // The Journal of Uzbekistan "Informatics and Energy Problems". - Tashkent, 2011. - №5. 25-31 p.